

Practitioner's Docket No. 2827/101



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent application  
of \_\_\_\_\_

Inventor(s)

for \_\_\_\_\_

Title of invention

the specification of which is being transmitted herewith

OR

In re application of: Wichmann, Gunter

Application No.: 10/664,047

Group No.: 2821

Filed: September 16, 2003

Examiner: N/A

For: Non-Intrusive Inspection Impulse Radar Antenna

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

(Information Disclosure Statement--page 1 of 7)

CERTIFICATION UNDER 37 C.F.R. SECTIONS 1.8(a) and 1.10\*

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I hereby certify that, on the date shown below, this correspondence is being:

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37 C.F.R. SECTION 1.8(a)

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Date: August 16, 2004

Samuel J. Petuchowski

(type or print name of person certifying)

**\*WARNING:** Each paper or fee filed by "Express Mail" must have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. section 1.10(b).  
"Since the filing of correspondence under section 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable C.F.R.e, requests for waiver of this requirement will not be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

**NOTE:** "An information disclosure statement shall be considered by the Office if filed by the applicant:

- (1) Within three months of the filing date of a national application;
- (2) Within three months of the date of entry of the national stage as set forth in section 1.491 in an international application; or
- (3) Before the mailing date of a first Office action on the merits, whichever event occurs last." 37 C.F.R. section 1.97(b).

**NOTE:** "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. section 1.56(a).

"Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) each inventor named in the application;
- (2) each attorney or agent who prepares or prosecutes the application; and
- (3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application." 37 C.F.R. section 1.56(c).

**NOTE:** The "duty as described in section 1.56 will be met so long as the information in question was cited by the Office or submitted to the Office in the manner prescribed by sections 1.97(b) - (d) and 1.98 before issuance of the patent." Notice of January 9, 1992, 1135 O.G. 13-25 at 17.

**WARNING:** "No information disclosure statement may be filed in a provisional application." 37 C.F.R. section 1.51(b).

### **List of Sections Forming Part of This Information Disclosure Statement**

The following sections are being submitted for this Information Disclosure Statement:

(check sections forming a part of this statement: disC.F.R.d unused sections and number pages consecutively)

1. ☒ Preliminary Statements
2. ☒ Forms PTO/SB/08A and 08B (substitute for Form PTO-1449)
3. ☒ Statement as to Information Not Found in Patents or Publications
4. ☐ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☒ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
  - 7A. ☐ JEPO Search Report
  - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

(complete the following, if appropriate)

Sections \_\_\_\_\_, respectively, have been continued on ADDED PAGE(S).

**NOTE :** "Once the minimum requirements are met, the examiner has an obligation to consider the information." Notice of April 20, 1992 (1138 O.G. 37-41, 37).

## **Section 1. Preliminary statements**

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. section 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.



SECTION 2. FORMS PTO/SB/08A and 08B (formerly Form PTO-1449)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Wichmann, Gunter Attorney Docket: 2827/101  
Serial No: 10/664,047 Art Group Unit: 2821  
Date Filed: September 16, 2003 Examiner Name: N/A  
Invention: Non-Intrusive Inspection Impulse Radar Antenna

LIST OF PATENTS AND PUBLICATIONS FOR  
APPLICANT'S INFORMATION DISCLOSURE STATEMENT

U.S. PATENT DOCUMENTS					
Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
	AA	US 5,523,760	June 4, 1996	McEwan	342/89
	AB	US 6,445,334	Sep. 3, 2002	Bradley et al.	342/22

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Reference Number	Country Code	Document Number	Publication Date	Patentee or Applicant	Class/Subclass
	AC	DE	33 16 937	April 25, 1996	Wichmann, G.	
	AD	DE	42 34 559	March 5, 1994	Wichmann, G.	

OTHER DOCUMENTS			
Examiner Initials	Ref. No.	Author	Title of Article, Title of Journal, Volume Number, Page Numbers, Date
	AE		Tektronix, "Sampling Oscilloscope Techniques", October, 1989.
	AF	Whitely et al.	"50 GHz Sampler Hybrid Utilizing A Small Shockline and An Internal SRD" <i>IEEE MTT-S Digest</i> , pp. 895-898, Copyright 1991.
	AG	Wichmann, G.	"Research and Development on the Field of Mine Detection", European Research Office of the U.S. Army, October, 1996.
	AH		Æther Wire & Location, Inc. , "The Origins of Ultra-Wideband Technology", May, 1998.
	AI	Tantum et al.	"ATR Algorithm Performance for the BRTC Wichmann Ground Penetrating Radar System", Department of Electrical and Computer Engineering, Duke University, UXO Forum '99 Proceedings.
	AJ	Daniels, D.	"An Overview of RF Sensors for Mine Detection: Part 3 Radar", ERA Technology Ltd., 1999.

	AK	Andrews et al.	"Research On Ground-Penetrating Radar for Detection of Mines and Unexploded Ordnance: Current Status and Research Strategy", Institute for Defense Analyses, December, 1999.
	AL		Celia Home Page, Case Study- Resistive Vee Dipole Mine Detection,
	AM	Montoya et al.	"Land Mine Detection Using a Ground-Penetrating Radar Based on Resistively Loaded Vee Dipoles", , IEEE Transactions on Antennas and Propagation, Vol. 47, No. 12, December 1999.
	AN	Schukin et al.	"Evolution of GPR Antennas, Pulse Generators and Sample Recorders", <a href="http://www.ircr.tudelft.nl/gpr/PDF/Publications/2000/gpr2000_p3_2.PDF">www.ircr.tudelft.nl/gpr/PDF/Publications/2000/gpr2000_p3_2.PDF</a>
	AO	Sachs et al.	"Ultra-Wideband Principles for Surface Penetrating Radar", <i>Ultra-Wideband, Short-pulse Electromagnetics</i> 5, 31. May- 2. June 2000.
	AP	Fontana et al.	"An Ultra Wideband Radar for Micro Air Vehicle Applications", IEEE Conference on Ultra Wideband Systems and Technologies, May 2002.
	AQ	Noon et al.	"Subsurface Remote Sensing" in "The Review of Radio Science", 1999-2002, IEEE Press (2002).
	AR		"Subsurface Sensing Lab: Single Chip Sequential Sampling Receiver", University of Houston, December 9, 2002.
	AS		"Subsurface Sensing Lab", University of Houston, March 11, 2003.
	AT		"Low-Power, Miniature, Distributed Position Location and Communication Devices Using Ultra-Wideband, Nonsinusoidal Communication Technology", Æther Wire Location, Inc., 2003.

Examiner Signature: \_\_\_\_\_

Date Considered: \_\_\_\_\_

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation *if not* in conformance and not considered. Include copy of this form with next communication to applicant.

## Section 6. Copies of Listed Information Items Accompanying This Statement

*NOTE: 37 C.F.R. section 1.98(a)(2) requires that any information disclosure statement filed under section 1.97 shall include: "A legible copy of: (1) Each U.S. and foreign patent; (ii) Each publication or that portion which caused it to be listed; and (iii) All other information or that portion which caused it to be listed, except that no copy of a U.S. patent application need be included . . ."*

*NOTE: The wording in section 1.98(a)(2)(iii) makes it clear that the requirement to submit a copy of each item of information listed in an information disclosure statement does not apply to the citation of a U.S. patent application. Notice of January 9, 1992, 1135 O.G. 13-25, at 14.*

Legible copies of all items listed in Forms PTO/SB/08A and 08B (substitute for Form PTO-1449) accompany this information statement.

*(complete the following, if applicable)*

☒ Exception(s) to above:

☐ Items in prior application, from which an earlier filing date is claimed for this application, as identified in Section 4.

☐ Cumulative patents or publications identified in Section 5.

U.S. patent citations are not included pursuant to 37 CFR 1.98 9(a)(2)(i) and 37 CFR 1.491(b), in which the USPTO waived the requirement for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003.

**Section 10. Identification of Person(s) Making This Information Disclosure Statement**

The person making this certification is

*(check each applicable item)*

(a) ☐ the inventor(s) who signs below

\_\_\_\_\_  
SIGNATURE OF INVENTOR

\_\_\_\_\_  
*(type name of inventor who is signing)*

(b) ☐ an individual associated with the filing and prosecution of this application (37 C.F.R. section 1.56(c))

\_\_\_\_\_  
SIGNATURE OF INVENTOR

\_\_\_\_\_  
*(type name of inventor who is signing)*

(c) ☒ the practitioner who signs below on the basis of the information:

*(check each applicable item)*

☐ supplied by the inventor(s).

☐ supplied by an individual associated with the filing and prosecution of this application. (37 C.F.R. section 1.56(c)).

☒ in the practitioner's file.

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02827/00101 326408.1

  
\_\_\_\_\_  
SIGNATURE OF PRACTITIONER

Samuel J. Petuchowski

*(type or print name of practitioner)*

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Boston, MA 02110



THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Wichmann

Atty. Dkt.: 2827/101

Serial No: 10/664,047

Examiner: Not Yet Assigned

Date Filed: September 16, 2003

Art Unit: Not Yet Assigned

Invention: **Non-Intrusive Inspection Impulse Radar Antenna**

\*\*\*\*\*

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 16, 2004.

Samuel J. Petuchowski

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Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

**STATEMENT AS TO INFORMATION NOT FOUND**

**IN PATENTS OR PUBLICATIONS**

Dear Sir:

The present application teaches technology relating to ground-penetrating radar such as for mine or ordnance detection.

A ground-penetrating radar system developed by the Applicant and hereinafter referred to as "Wichmann I" was in experimental use in 1999. A paper was presented and published in the Proceedings of the Unexploded Ordnance (UXO) Forum '99, held in Atlanta, GA, May 25-27, 1999, by Tatum et al., entitled "ATR Algorithm Performance for the BRTRC Wichmann Ground Penetrating Radar System," and is disclosed herewith as Reference AI. An assessment of Applicant's experimental system was conducted by the Institute for Defense Analyses (IDA) and



published, in December 1999, as a public and unclassified report, edited by Andrews et al., and entitled "Research on Ground Penetrating Radar for Detection of Mines and Unexploded Ordnance: Current Status and Research Strategy," IDA Document D-2416 (the "IDA Report", pertinent parts of which are disclosed herewith as Reference AK). The IDA Report discusses the "BRTRC-Wichmann Ground Penetrating Radar System" (at page II-11 *ff*, IV-4, and elsewhere) and this is the system developed by the Applicant and referred to as Wichmann I.

In January, 2001, Niitek Corporation ("Assignee"), the assignee of the present application, concluded a contract (the "Army Contract") with the Department of the Army (U.S. Army CECOM) to "design, manufacture and test a dual-mode anti-tank (AT) and anti-personnel AP) Wichmann Ground Penetrating Radar and signal processing package." As a result of work performed under the Army Contract, a subsequent ground-penetrating radar system using the same fundamental technology, "Wichmann II," was developed and was used experimentally, solely by the Assignee, and experimental data derived by Wichmann II was provided to the Army for evaluative purposes.

Reference AI and Reference AK are prior art to the present invention. However, to the best of Assignee's knowledge and belief, Wichmann I and Wichmann II should not constitute prior art, nor bar patentability of the present claims, because neither Wichmann I nor Wichmann II were in public use or on sale prior to the Critical Date of September 16, 2002, one year before the Application Date of the present Application. To the best of Assignee's knowledge, the sole activity that occurred in public prior to the Critical Date was the provision of data for subsequent analysis. Neither Wichmann I nor Wichmann II was used for field detection of active ordnance, and no person outside Niitek Corporation actually observed the operation of the subject technology. All testing was performed only by the Applicant and by Assignee personnel under a duty of confidentiality and non-disclosure.

The Assignee received payment from the Government only for the construction and testing of Wichmann II. Changes to the technology were documented during the testing period but no changes were made to the fundamental technology. Changes to design frequently occur during the engineering design phase, and the Government is under no obligation to procure an operational version of Wichmann II or any subsequent design. In the course of performance

under the Army Contract, the US Government received only data based upon an evaluation sample, while the Assignee was in sole possession and custody of the evaluation unit at all times.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'S. Petuchowski', written in a cursive style.

Samuel J. Petuchowski  
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